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## **IN THE CLAIMS:**

1. - 20 (Cancelled)

21. (*Presently Amended*) A process for making a fluorovinyl ether of formula CFX=CXOCF<sub>2</sub>OR

**(**I)

wherein:

- 1) R is a C<sub>2</sub>-C<sub>6</sub> linear or branched perfluoroalkyl group, a C<sub>5</sub>-C<sub>6</sub> cyclic perfluoroalkyl group, or a linear or branched perfluorooxyalkyl group comprising 2 to 6 carbon atoms and 1 to 3 oxygen atoms;
- 2) up to two fluorine atoms of the perfluoroalkyl group or the perfluorooxyalkyl group can be independently replaced with an atom selected from the group consisting of H, Cl, Br, and I; and
- 3) X is F or H; comprising the steps of

a) contacting hypofluorite, CF<sub>2</sub>(OF)<sub>2</sub>, with a first olefin of structure R<sub>1</sub>R<sub>2</sub>C=CR<sub>3</sub>R<sub>4</sub>, wherein R<sub>1</sub> and R<sub>4</sub> are the same or different and selected from H and F, and R<sub>2</sub> and R<sub>3</sub> are the same or different and selected from H and Cl, to form a first intermediate hypofluorite of structure

$$F-CR_1R_2-CR_3R_4-O-CF_2OF$$
(VI)

and

b) contacting the first intermediate hypofluorite (VI) with a second olefin having structure  $R_5R_6C^1=C^2R_7R_8$   $R_5R_6C^2=C^1R_7R_8$  to form a second itermediate hypofluorite

$$\begin{array}{c} F\text{-}CR_{1}R_{2}\text{-}CR_{3}R_{4}\text{-}OCF_{2}O\text{-}C^{2}R_{5}R_{6}\text{-}C^{1}R_{7}R_{8}\text{-}F \\ \text{(VII)} \end{array}$$

wherein R<sub>5</sub>, R<sub>6</sub>, R<sub>7</sub>, and R<sub>8</sub> are F; or one of R<sub>5</sub>, R<sub>6</sub>, R<sub>7</sub>, and R<sub>8</sub> is a C<sub>1</sub>-C<sub>4</sub> linear or branched perfluoroalkyl group and the others of R<sub>5</sub>, R<sub>6</sub>, R<sub>7</sub>, and R<sub>8</sub> are F; or one of R<sub>5</sub>, R<sub>6</sub>, R<sub>7</sub>, and R<sub>8</sub> is a C<sub>1</sub>-C<sub>4</sub> linear or branched perfluorooxyalkyl group containing from one to three oxygen atoms and the others of R<sub>5</sub>, R<sub>6</sub>, R<sub>7</sub>, and R<sub>8</sub> are F; or either pairing R<sub>5</sub> and R<sub>7</sub> or R<sub>6</sub> and R<sub>8</sub>, together with the carbon atoms to which they are attached, are linked

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to form a perfluorinated  $C_5$ - $C_6$  cycloalkyl group and the others of  $R_5$ ,  $R_6$ ,  $R_7$ , and  $R_8$  not so linked are F;

and

c) when R<sub>2</sub> and R<sub>3</sub> are both Cl, subjecting the second intermediate (VII) to a dehalogenation reaction, or, when one of R<sub>2</sub> and R<sub>3</sub> is H, subjecting the second intermediate (VII) to a dehydrohalogenation reaction;

with the proviso that when one of  $R_5$ ,  $R_6$ ,  $R_7$  or  $R_8$  is a  $C_2$ - $C_4$  linear or branched fluoroalky group or a  $C_2$ - $C_4$  linear or branched fluoroalkoxy group comprising from one to three oxygen atoms; then one or two of the remaining three of  $R_5$ ,  $R_6$ ,  $R_7$ , and  $R_8$  are F and the remaining one or two of  $R_5$ ,  $R_6$ ,  $R_7$ ,  $R_8$  are selected from H, Cl, Br, and I, with the proviso that, where only one of said remaining three of  $R_5$ ,  $R_6$ ,  $R_7$ , and  $R_8$  is F, then the remaining two of  $R_5$ ,  $R_6$ ,  $R_7$ , and  $R_8$  are the same and linked to the same carbon atom; and further with the proviso that when  $R_5$  and  $R_7$  together with the carbon to which they are attached, or  $R_6$  and  $R_8$  together with the carbon atom to which they are attached, are linked to form a cyclic then one of the remaining two of  $R_5$ ,  $R_6$ ,  $R_7$ , and  $R_8$  is F and the other is selected from H, Cl, Br, and I.

- 22. The process of claim 21 wherein the second olefin is reacted with hypofluorite in place of first olefin and the first intermediate hypofluorite is then reacted with the first olefin.
- 23. The process of claim 21 wherein the contacting is in a continuous process in which the mole amount of hypofluorite contacted is equal to or greater than the mole amount of first olefin  $R_1R_2C=R_3R_4$  contacted and further wherein the residence time in the reactor is between about 0.05 and about 120 seconds, the temperature is between about -40° and about -150°C, and the first intermediate hypofluorite of the reaction of the first olefin with hypofluotite is continuously reacted with the second olefin.
- 24. (*Presently Amended*) A process according to claim 21 wherein the concentration of second olefin  $R_5R_6C=CR_7R_8$   $R_5R_6C^2=C^1R_7R_8$  is constant and greater than about 0.01M and the temperature is between about  $-20^{\circ}$ C to  $-100^{\circ}$  C.

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- 25. The process of claim 24 wherein the concentration of second olefin is equal to or greater than about 3M.
- 26. (Presently Amended) In a process for making a fluorovinyl ether of structure:

wherein:

- 1) R is a C<sub>2</sub>-C<sub>6</sub> linear or branched perfluoroalkyl group, a C<sub>5</sub>-C<sub>6</sub> cyclic perfluoroalkyl group, or a linear or branched perfluorooxyalkyl group comprising 2 to 6 carbon atoms and 1 to 3 oxygen atoms;
- 2) up to two fluorine atoms of the perfluoroalkyl group or the perfluorooxyalkyl group can be independently replaced with an atom selected from the group consisting of H, Cl, Br, and I; and
- 3) X is F or H;

the step of:

contacting a first fluoroalkene with a hypofluorite to form a first intermediate; then contacting the first intermediate with a second fluoroalkene to form a second intermediate;

- 1) the hypofluorite is of structure  $X_1X_2C(OF)_2$  wherein  $X_1$  and  $X_2$  are the same or different and selected from F and  $CF_3$ ; and
- 2) the first and second fluoroalkenes may be the same or different and are selected from  $R^A_1R^A_2C=CR^A_3R^A_4$  and  $R^A_4R^A_5C=CR^A_7R^A_8$  wherein each of  $R^A_1$ ,  $R^A_2$ ,  $R^A_3$ ,  $R^A_4$ ,  $R^A_5$ ,  $R^A_6$ ,  $R^A_7$ , and  $R^A_8$  are the same or different and are selected from the group consisting of H, F, Cl, Br, I,  $-CF_2OSO_2F$ ,  $-SO_2F$ , -C(O)F,  $C_1-C_5$  linear or branched perfluoroalkyl, and linear or branched oxyperfluoroalkyl.

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